UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,779	04/16/2004	Michael Sweeting	03-1083	1294

63710 7590 05/25/2010

INNOVATION DIVISION
CANTOR FITZGERALD, L.P.
110 EAST 59TH STREET (6TH FLOOR)
NEW YORK, NY 10022

EXAMINER	
JOHNSON, GREGORY L	

ART UNIT	PAPER NUMBER
3691	

MAIL DATE	DELIVERY MODE
05/25/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/826,779	SWEETING ET AL.	
	Examiner	Art Unit	
	GREGORY JOHNSON	3691	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-10,12-18,20-26,28-33,39 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-10,12-18,20-26,28-33,39 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the amendment filed March 1, 2010.

Status of Claims

2. Claims filed March 1, 2010 included 39 and 40 with a status identifier as "new." The Examiner confirmed with Applicant, via telephoned on May 17, 2010, that the correct status identifier is "previously presented." In view of this, the current status of the claims are as follows:

- Claims 1, 5-7 and 18 are amended.
- Claims 2, 11, 19, 27 and 34-38 are canceled.
- Claims 3-4, 8-10, 12-17, 20-26, 28-33 and 39-40 are as previously presented.
- **Claims 1, 3-10, 12-18, 20-26, 28-33 and 39-40 are pending**.

Response to Arguments

3. Applicant's arguments filed March 1, 2010 have been fully considered but they are not persuasive.

I. Claim 1 and § 101 (pgs. 9-10)

A. The Action does not discuss the claim language

B. "Programming" creates a new machine that is statutory subject matter under § 101

In response: Applicant's arguments are persuasive; therefore the rejections are withdrawn.

II. § 103 and Peterffy '804 and Konia '151 (pgs. 10-12)

A. Claim 18

(a) Applicant argues (pg. 11):

First, in Applicants' paper of June 2009, Applicant traversed any correspondence between "order priority" of the claim and the "priority" of Konia '151. The September 2009 Action notes that Konia '151 shows "orders" and "priority," but does not attempt to answer the precise issue traversed, that Konia '151 does not show an "order priority" as that term is understood by those in the art, and having the properties recited in the claim. .... The Action does not address either the precise language of the claims or the precise issues traversed, so it is difficult for Applicant to move the application forward, except to request that the Examiner focus precisely on the claim language, and precisely on the issues traversed.

Third, the Action is not logically consistent. The Action, at page 7, states that Peterffy shows "order matching priority for execution against contraorders is maintained by the electronic trading system at least in part relative to earlier-submitted orders on the same side of the market" but does not show "adjusting." But the claim is clear that the "priority maintaining" is the causal result of the "price adjusting" If "price adjusting" is absent, then "priority maintaining" as a result of "adjusting" or "by adjusting" cannot possibly be shown in Peterffy.

In response to (a): The Examiner respectfully disagrees with Applicant's assertions. Applicant argues the references individually, as compared to arguing the combined teachings. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's specifications (provisional application – ¶0013-0015 and non-provisional application – ¶0025 & ¶0042) use the term "priority" as it relates to time. In addition, Applicant's reply filed on 3/9/2009 (pgs. 8-9) recites:

> The claim uses the language "priority of the ... order." "Order priority" is a property of an order within a trading system, that determines the sequence in which orders are matched to counterorders. For example, orders with better prices (higher bids to buy or lower offers to sell), earlier in time, higher in quantity, etc. (as defined by trading rules of the particular trading system or exchange) have higher "order priority" than orders lacking these attributes, and will be matched earlier in time. "'Order priority" relates to the matching within the system. An order with higher priority has a great advantage if the market price for the commodity being sold through the system changes rapidly. "Order priority" is unrelated to the sequence in which services are performed outside the trading system - for example, the sequence of settlement of trades is not directly affected by order priority. This art-recognized definition of a term of art is shown in the Baron's Dictionary definition, provided as an Exhibit to this Reply.

Peterffy teaches matching orders based on price and/or time (as reflected by a timestamp indicating the entry time of an order to a trading system). In view of Applicant's use of the term priority, Peterffy clearly teaches the element of "order matching priority" as currently recited in claims 1, 5-7 and 18.

Turning to claim 18, which recites (2nd limitation):

> receive a dynamic price improvement order, being an order to buy or sell an identified a financial instrument traded on the electronic trading system, whose order matching priority for execution against contraorders is maintained by the electronic trading system at least in part relative to earlier-submitted orders on the same side of the market by adjusting a price associated with the dynamic price improvement order;

The non-underlined subject matter has been rejected as being unpatentable over Peterffy, in view of Konia, based on Peterffy's teachings for an electronic Central Order Book and the matching of orders based on a price and time priority algorithm (Abstract and ¶0011).

The underlined subject matter has been rejected as being unpatentable over Peterffy, in view of Konia, based on Konia's teachings of a buyer placing an order and a method for adjusting a bid price (i.e. order price) with the intent to maintain said price in front of other prices (within a queue/stack of prices). In addition, Konia teachings checking and incrementing said price is executed a plurality of times (see Abstract, col.11, line 19-21, and col.12, lines 2-5). As interpreted, this technique for maintaining a price within a queue of prices is analogous to maintaining a price priority within a queue of prices.

Accordingly, the Examiner maintains that the **combination** of Peterffy and Konia disclose, teach, and suggest Applicant's invention concept.

(b) Applicant argues (pg. 11):

Second, an affidavit of Oleg Mestechkin notes that the terms "order priority" and "order matching priority" are terms of art, and they do not correspond to Konia ' 151 in the way that the Office Action proposes. An affidavit is "substantial evidence" that cannot be overcome by any amount of examiner explanation.

In response to (b): The affidavit under 37 CFR 1.132 filed March 1, 2010 is insufficient to overcome the rejection of claims 1, 3-10, 12-18, 20-26, 28-33 and 39-40 based upon 35 U.S.C. 103(a) as being unpatentable over Peterffy et. al., Pub. No. 2004/0254804, in view of Konia, Pat. No. 7,225,151, as set forth in the last Office action because:

The Konia reference is not used for teaching "order priority" and "order matching priority" as the terms are known/used in the art of trading systems; Peterffy teaches these terms as recited in the claims via matching orders based on the use of a price and time priority algorithm. The Konia reference was used for teaching dynamically adjusting a price (within a queue/stack of prices) to maintain said price in front of other prices in the queue. Again, Applicant is arguing the references individually, as compared to arguing the combined teachings.

(c) Applicant argues (pg. 12):

If any future rejection is raised, the Examiner must come forward with substantial evidence that overweighs Mr. Mestechkin's affidavit to a preponderance of evidence, and must directly answer all material traversed in the three bullet points at pages 12-13 of Applicant's paper of June 8, 2009.

In response to (c): The three bullet points are directed to Konia's "priority" (which was not relied upon in making the rejections) and not Konia's technique for dynamically adjusting a price within a queue/stack of prices to maintain said price in front of other prices in the queue (which was relied upon in making the rejections).

Again, Applicant is arguing the references individually, as compared to arguing the combined teachings (see the response to **(a)** above). Also, see response **(b)** above in regards to Mr. Mestechkin's affidavit.

B. Claim 1 (pg. 12)

Applicant also argues that the language in claim 1 is "structural" and must be given full weight.

In response:

Claim 1 is a method claim, which should be comprised of steps positively reciting steps to accomplish said method. In the instant case, claim 1 begins by reciting:

A method for operating an electronic trading system for the exchange of financial instruments, *the method comprising the steps of*:

in an electronic trading system designed to receive and store orders to buy and to sell financial instruments as submitted by traders, and substantially as orders are received, to execute trades between matching buy and sell orders, stored buy and sell orders having priority orderings relative to each other reflecting at least one attribute of the order in addition to or instead of price, the priority ordering used by the electronic trading system to determine priority among orders for matching for execution;

The limitation beginning with *"in an electronic trading system designed to"* does not appear to be a step that is positively reciting an action being performed. Instead, the limitation is merely describing what an electronic trading system is

designed to do (i.e. intended use). As compared to the second and third limitations, which positively recite steps of the method (i.e. receiving and executing).

Even though the first limitation fails to recite any step that is actually performed, the Examiner did give the whole claim full weight during examination.

III. Designation of Paragraphs in the Office Action (pg. 12)

Applicant also argues numbering of paragraphs in the Office Action as recited in MPEP 707.07(k). This is directed to the Examiner not numbering each and every paragraph within the Office action.

In response: This is not a mandatory requirement for an Office Action.

Claim Objections

4. **Claims 1 and 18** were previously objected to; however, in view of the amendments, the objections are withdrawn.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 1, 3-10 and 12-17** were previously rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant's arguments are persuasive; therefore the rejections are withdrawn.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1, 3-10, 12-13, 15-18, 20-26, 28-29 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterffy et. al., Pub. No. 2004/0254804 (hereinafter Peterffy) in view of Konia, Pat. No. 7,225,151 (hereinafter Konia).

As to claim 18, Peterffy discloses an electronic trading system for the exchange of financial instruments, said system comprising at least one processor (¶0071), the processor or processors of the system being configured to:

- receive and store orders to buy and to sell financial instruments as submitted by traders, and substantially as orders are received, to execute trades between matching buy and sell orders, the stored buy and sell orders having order matching priority (i.e. the use of time priority or a timestamp to keep orders in their predetermined position (see Applicant's

provisional and non-provisional specification)) orderings relative to each other reflecting at least one attribute of the order in addition to or instead of price, the order matching priority used by the electronic trading system to determine order matching priority among orders for matching for execution (Abstract and ¶0011; via electronic Central Order Book; and all orders are matched on a strict price and time priority algorithm);

- receive a dynamic price improvement order, being an order to buy or sell an identified a financial instrument traded on the electronic trading system, whose order matching priority for execution against contraorders is maintained by the electronic trading system at least in part relative to earlier-submitted orders on the same side of the market (Abstract and ¶0011; via electronic Central Order Book; and all orders are matched on a strict price and time priority algorithm);
- receive orders contra to the dynamic price improvement order, and match the contra order to the stored orders on the same side of the market as the dynamic price improvement order substantially as the contra orders are received, the dynamic price improvement order being matched to the contra orders with the order matching priority relative to other orders as maintained by the electronic trading system (Abstract and ¶0011; via electronic Central Order Book; and all orders are matched on a strict price and time priority algorithm), and
- execute transactions substantially as orders and contra orders are matched (Abstract, ¶0011 and ¶0026-0042); via electronic Central Order

Book; and all orders are matched on a strict price and time priority algorithm).

Peterffy does not disclose the following:

- adjusting a price associated with the dynamic price improvement order.

As interpreted (in terms of the Peterffy reference), a price for a bid or offer within an electronic Central Order Book (i.e. a queue, a stack, etc.) will be automatically adjusted to maintain a priority position of said bid or offer within the order book.

Konia teaches a method for automatically managing an auction for determining relative priority for a service in a system wherein priority is based on the relative value of related bids is disclosed. The method comprises checking for whether a first bid exceeds a second bid in an auction for determining continuing priority for providing an ongoing service for at least a first and second bidder, wherein the relative priority for providing the service for the first bidder is dependent on whether the value of the first bid exceeds the value of the second bid, and wherein the relative priority for providing the service for the second bidder is dependent on whether the value of the second bid exceeds the value of the first bid. The method further comprises incrementing the first bid to a value exceeding the second bid if the first bid does not exceed the second bid, thereby causing the relative priority for providing service for the first bidder to exceed the priority for providing service for the second bidder. The steps of checking and incrementing may be executed a plurality of times (i.e. bids are dynamically adjusted; see Abstract and col. 12, lines 2-5).

Peterffy discloses a price improvement processor to effectuate more rapid matching of bids and offers of financial instruments by conducting a rapid automated

auction in which certain market participants may provide price improvement in increments that are finer than the prevailing standard minimum price variation and are provided a certain allocation as an incentive for such price improvements (Abstract). Peterffy also discloses that the orders (i.e. bids) orders from all types of market participants may interact directly with each other on a price/time priority basis (¶0008). Peterffy also discloses that the orders are held in a Book (i.e. stack, queue etc).

Konia teaches a method for managing the priority of bids that have been submitted by buyers within in auction. Konia teaches that bidders can enter bids with a maximum and minimum value and that the online bid management system would keep track of the bids. Konia teaches that the system would increment (i.e. adjust) the lower bids until they reach their desired bidding position (e.g. position in a stack), while ensuring that the bids do not exceed their maximum values (col. 5, lines 50-67). Konia also discloses that the bidders and their bids can be replaced with buyers and their orders placed for products or services (col. 11, lines 19-45).

The inventive concept taught by Konia comprises: (1) a method for managing the priority position of bids/orders (e.g. dynamic price improvement order) that have been submitted with minimum and maximum amounts (i.e. price improvements), (2) a method for adjusting the bids/orders dynamically to maintain the position, while staying within the range set by the minimum and maximum amounts (i.e. dynamic price improvement indicators) and (3) maintaining said position until order ends.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the price improvement method for electronic trading of financial instruments (which matched orders on a strict price and time priority

algorithm) as disclosed by Peterffy, with the method for automatically adjusting bids/orders according to rules defined by its user (col. 1, lines 27-29) as taught by Konia, since the claimed invention is simply a substitution of one known element for another (i.e. algorithm for dynamically adjusting a price), and one of ordinary skill in that art would have recognized that the results of the substitution were predictable. See MPEP 2143, **Rational (B)**.

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

(1) a finding that the prior art contained a method which differed from the claimed device by the substitution of some components (step, element, etc.) with other components (via dynamically adjusting a price to remain in front of other prices);

(2) a finding that the substituted components and their functions were known in the art (via Konia's teaching of dynamically adjusting a price to maintain a position in front of other prices within a queue/stack of prices);

(3) a finding that one of ordinary skill in the art could have substituted one known element for another, and the results of the substitution would have been predictable (via modifying the invention of Peterffy to include the technique of dynamically adjusting a price to maintain a position in front of other prices within a queue/stack of prices).

The rationale to support a conclusion that the claim would have been obvious is that the substitution of one known element for another yields predictable results to one of ordinary skill in the art.

In addition, the known work in the field of auctions (e.g. managing incoming bids/offers and maintaining priorities of said bids/offers) could have prompted variations of it for use in either the same field or a different one based on design incentives or other market forces, and the variations would have been predictable to one of ordinary skill in the art. See MPEP 2143, **Rational (F)**:

(1) a finding that the scope and content of the prior art, whether in the same field of endeavor as that of the applicant's invention or a different field of endeavor, included a similar method (e.g. maintaining a price priority);

(2) a finding that there were design incentives or market forces which would have prompted adaptation of the known (e.g. techniques for maintaining a price priority);

(3) a finding that the differences between the claimed invention and the prior art were encompassed in known variations or in a principle known in the prior art (e.g. Peterffy teaching order matching priority and Konia teaching dynamically adjusting a price to remain in front of other prices);

(4) a finding that one of ordinary skill in the art, in view of the identified design incentives or other market forces, could have implemented the claimed variation of the prior art, and the claimed variation would have been predictable to one of ordinary skill in the art (e.g. both auction and trading system employ the use of a "priority price" via a queue/stack in order to complete a transactions; therefore, it would have been obvious to one of ordinary skill to combine the teachings of Peterffy and Konia). Peterffy teaches a system and method for price improvement for electronic trading of financial instruments. And Konia teaches a technique for dynamically for dynamically adjusting a price (i.e. maintaining a price position via price improvements).

Also, the claim can be rejected using **Rational (C)** (Use of Known Technique To Improve Similar Methods in the Same Way).

(1) a finding that the prior art contained a "base" method upon which the claimed invention can be seen as an "improvement" (e.g. Peterffy's method for price improvement for electronic trading of financial instruments);

(2) a finding that the prior art contained a "comparable" method that has been improved in the same way as the claimed invention (e.g. Konia's method for dynamically adjusting a price to maintain a lead position in front of other prices within a queue);

(3) a finding that one of ordinary skill in the art could have applied the known "improvement" technique in the same way to the "base" method and the results would have been predictable to one of ordinary skill in the art (e.g. it would have been obvious that the technique for dynamically adjusting a "bid price" could be employed for dynamically adjusting an "order price").

As to claim 1, Peterffy discloses a method for operating an electronic trading system for the exchange of financial instruments, the method comprising the steps of:

- in an electronic trading system designed to receive and store orders to buy and to sell financial instruments as submitted by traders, and substantially as orders are received, to execute trades between matching buy and sell orders, stored buy and sell orders having order matching priority orderings relative to each other reflecting at least one attribute of the order in addition to or instead of price, the order matching priority

ordering used by the electronic trading system to determine priority among orders for matching for execution:

Peterffy explicitly discloses electronic trading system for the exchange of financial instruments, the trading system designed to receive and store orders, to execute trades and to determine priority among orders (¶0002 and ¶0021-0023).

Examiner notes that the fact that the system is designed to perform the specific functions does not mean that they are actually performing the functions as recited in the claims. The functions recited in the claim are not positive limitations but only requires the elements to be able to perform the functions. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See MPEP 2114 and *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

The remaining limitations of claim 1 are substantially equivalent to the limitations of claim 18, and are therefore rejected on the same grounds.

As to claims 3-4, 10, 20-21 and 26, Peterffy does not disclose the following limitations:

- the change includes an increase in the price of the dynamic price improvement order (i.e. a bid or offer in which the submitter would like to have a price priority);

- the change includes a decrease in the price of the dynamic price improvement order (i.e. a bid or offer in which the submitter would like to have a price priority);
- determining includes determining the price improvement level such that it is one level higher than the next best order in an order stack, wherein the price improvement level can be adjusted up to a maximum price improvement level.
- the processor is further operable to adjust the price of the dynamic price improvement order (i.e. a bid or offer in which the submitter would like to have a price priority) to one level more improved than the next best order in an order stack, wherein the price improvement level can be adjusted up to a maximum price improvement level.

However, Konia teaches a method and system for automatically managing an auction for determining relative priority for a service in a system wherein priority is based on the relative value of related bids is disclosed. Konia teaches that the system can perform checks for whether a vendor's bid/order is lower than all other bids/orders in an auction (e.g. trading system). The vendor is allowed to choose a desired position and the system can determine the maximum that the vendor's bid need to be in order to obtain the priority position (e.g. position in a stack). If the system finds that the vendor has achieved the desired position with respect to the buyer server being processed, the system may increase the bid to a maximum which allows the bidder to keep the desired priority. Otherwise, the system decreases the bid without lowering the bid below the minimum bid entered by the vendor (Abstract and col. 10, lines 53-67).

The concept/method taught by Konia comprises: (1) a method for managing the priority position of bids/orders (e.g. dynamic price improvement order) that have been submitted with minimum and maximum amounts (i.e. price improvements), (2) a method for adjusting the bids/orders dynamically to maintain the position, while staying within the range set by the minimum and maximum amounts (i.e. dynamic price improvement indicators) and (3) maintaining said position until order ends.

See reasons to combine Peterffy and Konia in the rejections of claims 1 and 18 above.

As to claims 5-9, Peterffy discloses the following elements:

- the order matching priority of the dynamic price improvement order is a position at a front of a trading stack (¶0011 and ¶0040; which discusses how orders are moved to the top of the book using price-time priority and all orders are matched on a strict price and time priority algorithm);
- maintaining order matching priority of the dynamic price improvement order relative to other orders based a timestamp assigned to the dynamic price improvement order (¶0011, ¶0025, ¶0037 and ¶0071; which discusses time-stamp assigned by the trading host at the entry of the original order and maintaining a price-time priority; and all orders are matched on a strict price and time priority algorithm);
- maintaining the order matching priority based on said timestamp (¶0008 and ¶0011; via all orders are matched on a strict price and time priority algorithm);

- wherein in the event two or more said dynamic price improvement orders are received, the orders with older timestamps are matched prior to orders with newer timestamps (¶0042; which discusses if more than one order has been entered into the trading host at the same price, priority would be based on the time of order entry; and all orders are matched on a strict price and time priority algorithm); and
- the electronic trading system reveals orders to users at a fixed price increment, and the price increment at which the price of the dynamic price improvement order is adjusted is a fraction of the revealed price increment (¶0024, ¶0047, ¶0052, ¶0054 and Figs. 4 and 4A).

The limitations of claims 22-25 are equivalent to the limitations of claims 5-7 and 9, respectively, and are therefore rejected on the same grounds.

As to claim 12, Peterffy discloses the following elements:

- determining the price improvement level of a best order in an order stack (¶0053); and
- assigning a price improvement level to said price improvement order that improves the price of said dynamic price improvement order by one price improvement level when the price improvement level of said best order is not a maximum price improvement level (¶0053).

As to claim 13, Peterffy discloses the following element:

- assigning said maximum price improvement level to said dynamic price improvement order when the price improvement level of said best order is

at said maximum price improvement level (¶0024, ¶0047 and ¶0073-0087).

As to claim 15, Peterffy discloses the following element:

- providing to traders of the electronic trading system the option to select dynamic price improvement as one of several price improvement order types available for submission to said electronic trading system (i.e. several types of order types can be submitted to the trading host, including orders submitted for price improvement; ¶0026-0035 and ¶0046).

As to claims 16-17, Peterffy does not disclose the following elements:

- decreasing the price improvement level of the at least one order on the same side of the market as the dynamic price improvement (i.e. a bid or offer in which the submitter would like to have a price priority) order such that the price improvement level of the at least one same-market-side order does not exceed the price improvement level assigned to the dynamic price improvement order; and
- the price improvement level of the at least one second order is decreased to a price improvement level one level below a maximum price improvement level when the at least one price improved order is assigned a maximum price improvement level as its price improvement level.

However, Konia teaches a method and system for automatically managing an auction for determining relative priority for a service in a system wherein priority is based on the relative value of related bids is disclosed. Konia teaches that the system can perform checks for whether a vendor's bid/order is lower than all other bids/orders

in an auction (e.g. trading system). The vendor is allowed to choose a desired position and the system can determine the maximum that the vendor's bid need to be in order to obtain the priority position (e.g. position in a stack). If the system finds that the vendor has achieved the desired position with respect to the buyer server being processed, the system may increase the bid to a maximum which allows the bidder to keep the desired priority. Otherwise, the system decreases the bid without lowering the bid below the minimum bid entered by the vendor (Abstract and col. 10, lines 53-67).

The concept/method taught by Konia comprises: (1) a method for managing the priority position of bids/orders (e.g. dynamic price improvement order) that have been submitted with minimum and maximum amounts (i.e. price improvements), (2) a method for adjusting the bids/orders dynamically to maintain the position, while staying within the range set by the minimum and maximum amounts (i.e. dynamic price improvement indicators) and (3) maintaining said position until order ends.

See reasons to combine Peterffy and Konia in the rejections of claims 1 and 18 above.

The limitations of claims 28-29, 33 and 31-32 are equivalent to the limitations of claims 12-13, 15 and 16-17, respectively, and are therefore rejected on the same grounds.

10. Claims 14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterffy and Konia as applied to claims 1 and 18 above, and further in view of Serkin et al., Pat. No. 7,209,896 (hereinafter Serkin).

As to claims 14 and 30, neither Peterffy nor Konia discloses or teaches the following element:

- wherein said dynamic price improvement order is the default order type for designated traders that use a trading interface to submit orders to the electronic trading system (i.e. the system provides the ability to set a default order type).

However, Serkin teaches a system for handling quotes in an electronic market, said system being capable of processing price improvement orders (Abstract and col. 10, lines 46-51). Serkin also teaches that the system uses a "point-and-click" window-type technology that provides a "default" order feature. Both Peterffy and Serkin disclose and teach system for handling quotes which may contain various types of orders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to include in the trading network of Peterffy, the ability to set a default order type as taught by Serkin, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in that art would have recognized that the results of the combination were predictable. See MPEP 2143, Rational (A).

11. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterffy and Konia as applied to claims 1 and 18 above, and further in view of Fraser et al., Pat. No. 5,905,974 (hereinafter Fraser).

As to claims 39 and 40, neither Peterffy nor Konia discloses or teaches the following limitations; however, these limitations are taught by Fraser:

- a contra order matched to the dynamic price improvement order for execution is a lift or take of a standing offer (col.7, lines13-22, col.9, lines40-51, col.11, lines 10-25 and col.12, lines 31-49); and
- a contra order matched to the dynamic price improvement order for execution is a hit of a standing bid (col.7, lines13-22, col.9, lines40-51, col.11, lines 10-25 and col.12, lines 31-49).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to include the aforementioned limitation as taught by Fraser within Peterffy for the motivation to provide customized trading tools for trading customers (col.4, lines 1-53).

Conclusion

12. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY JOHNSON whose telephone number is (571)272-2025. The examiner can normally be reached on Monday - Friday, 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ALEXANDER KALINOWSKI can be reached on (571) 272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander Kalinowski/
Supervisory Patent Examiner, Art Unit 3691

GREGORY JOHNSON
Examiner
Art Unit 3691